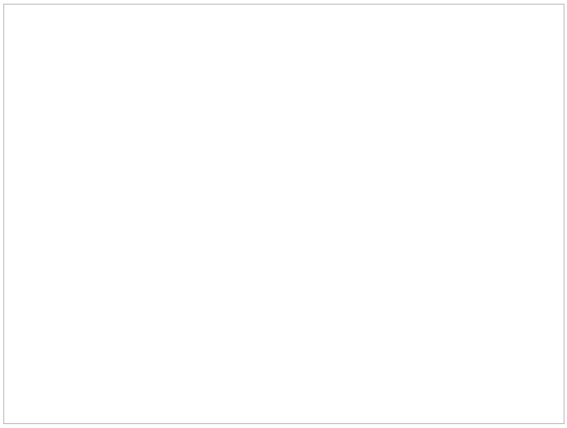
Thousands of chemical engineers gather in Salt Lake City

More than two dozen researchers from Idaho National Laboratory chaired or spoke to sessions at the 2007 annual American Institute of Chemical Engineers (AIChE) Nov. 4-8 in Salt Lake City.

INL was a bronze sponsor for the annual meeting, which drew nearly 4,000 engineers and scientists to learn about the most recent innovations, trends and concerns, and identify new issues and directions for the future. Nearly 700 technical sessions that focused on energy, biotechnology, nanoscale science and engineering, and environmental sustainability were held.

Jim Herzog, manager of INL's Research Capabilities and Partnerships division, led INL's effort in the exhibit hall, where representatives were able to meet students, young engineers and scientists, and accomplished researchers in the field, including a dozen or more of the institute's Fellows.

"These professionals were interested in INL and curious to learn about INL's energy research efforts," Herzog said. "We met many students and aspiring researchers who were very interested in work at INL, especially in nuclear and renewable energy."



INL's Jim Herzog hosted a display for the laboratory at the 2007 annual meeting of the American Institute of Chemical Engineers. Many students, AIChE Fellows, and senior researchers stopped to learn more about the energy research efforts at INL.

INL researcher Carl Stoots co-chaired a session on high-temperature electrolysis that included presentations from INL researchers Steve Herring, Jim O'Brien and Grant Hawkes.

"Our session attracted significant interest during the presentations, but also prompted many discussions after the formal session," Stoots said. This team of INL researchers has conducted key research in co-electrolysis to produce both hydrogen and syngas, a precursor to synthetic gas.

INL researcher David Thompson chaired the Sustainable Biorefineries Topical Conference within AIChE's 2007 meeting, which included 12 presentation sessions and a poster session. The Sustainable Biorefineries Plenary Session drew an audience well in excess of 200 attendees and each of the technical sessions averaged audiences of more than 60 researchers.

INL researcher Dan Ginosar chaired and co-chaired sessions on Developments in Thermochemical and Electrolytic Routes to Hydrogen Production that included his presentation and those from fellow researchers Fred Stewart, Lucia Petkovic and Sergey Rashkeev.

INL researcher Donna Post Guillen chaired a session on Alternative Fuels and Enabling Technologies, plus she presented a technical paper, "Review of Experimental Capabilities and Hydrodynamic Data for Validation of Computation Hydrodynamics for Slurry Bubble Column Reactors." The paper reviewed published data that can be used to validate a computational multiphase fluid dynamics model of a Fischer Tropsch synthetic fuels production reactor. This INL project has been a joint effort with Rensselaer Polytechnic Institute.

Other highlights at the conference included a special session on new frontiers in energy research, sustainable biorefineries, nanomaterials for energy applications, pharmaceutical engineering for the 21st century and other topics.

Featured events included a lecture by Nicholas Peppas from the University of Texas titled "Le plus ca change...Nanotechnology and Bioengineering in an Evolving Chemical Engineering World" and an expert panel on key energy issues - demand, reserves and costs; feedstocks and technologies, sustainability and global warming.

The meeting program co-chairs were Jim Davis, associate vice chancellor and information technology professor in Chemical Engineering at UCLA and Dr. Vincent Grassi, director, Global Learning and Knowledge Management for Air Products & Chemicals, Inc.

View some of the INL presentations.

- 3D CFD Model of a Multicell High Temperature Electrolysis Stack (2.4MB PDF)
- Results of Recent High Temperature Coelectrolysis Studies at the Idaho National Laboratory (5.3MB PDF)
- Parametric Study of Large-Scale Production of Syngas via High Temperature Co-Electrolysis (1.7MB PDF)
- Recent Progress in High Temperature Electrolysis (7.0MB PDF)

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